are now in most of our cities and towns, the majority of consumptives are doomed to a certain and lingering death; and, if they are careless or ignorant of the necessary precautions, they will infect some of their own kin and neighbors.

"When you call on your philanthropic friends to help you solve this great tuberculosis problem describe to them the sufferings of mind and body of these people who must suffer and die, not because their disease is incurable, but because there is no place to cure them. I am convinced that if our generous and wealthy fellow-citizens could but see for themselves these conditions, instead of more new libraries, universities, and colleges, we would soon have better tenements, more playgrounds and parks for children, and an abundance of sanatoria and hospitals for our consumptive poor. Thus we would come nearer to the solution of the tuberculosis problem than we have ever been before in the United States."

CONCERNING THE METRIC SYSTEM

By MARY E. GLADWIN
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THE metric system, which John Quincy Adams called "the greatest invention of humanity since that of printing," derives its name from its unit, the *meter,* from which all its weights and measures are obtained, and is sometimes known as the decimal system or, as modified in physical science, the C. G. S. system (centimeter, gramme, second). The system of French money is intimately connected with that of weights and measures. The monetary unit is the franc, weighing five grammes, and all higher and lower denominations are multiples or submultiples of the franc.

The metric system originated with Talleyrand in 1790, but was established only after long and elaborate investigation by a committee from the French Academy. The *meter,* from the Greek *metron,* measure, is approximately one ten-millionth part of the distance from the equator to the pole. The arc of the meridian measured was that between Dunkirk and Barcelona, passing through Paris. This was a labor extending through seven years. The arc was measured trigonometrically and was compared with other arcs measured in Peru and Sweden. A standard meter of platinum was deposited in the archives of France and a similar one sent to the various civilized nations.

This system was made compulsory in France in 1840, legal in

England in 1864, legal in the United States in 1866, and has come into almost general use by European nations. In 1870 an international commission was held in Paris to decide the various questions which had arisen in using the metric system and to provide authenticated copies of the standard. At that time was established an International Bureau of Weights and Measures, which is maintained in Paris.

The prefixes of the multiples are derived from the Greek and are usually capitalized, while the prefixes of the sub-multiples are from the Latin and not capitalized; thus we have, with their abbreviations:

10,000	meters	=	1 myriameter (Mm.).
1,000	meters	=	1 kilometer (Km.).
100	meters	=	1 hectometer (Hm.).
10	meters	=	1 dekameter (Dm.).
1	meter	=	1 meter (m.).
.1	meter	=	1 decimeter (dm.).
.01	meter	=	1 centimeter (cm.).
.001	meter	=	1 millimeter (mm.).

As the prefixes always have the same meaning, the construction of any table of weights or measures becomes exceedingly simple, the unit being given. In microscopy the micromillimeter (mkm.) is used, the one-thousandth of a millimeter or one-millionth part of a meter. The meter equals three feet three and three-eighths inches, ten meters are equal to eleven yards, and twenty-four and four-tenths millimetres to one inch. For itinerary measure the kilometer, equal to 0.62138 mile, is used as a unit.

The *gramme,* the unit of weight, was obtained by weighing one cubic centimeter of distilled water at its maximum density, 39.2° F. (4° C.). That the weight might be constant, the weighing was done in a vacuum at the sea-level and in the latitude of Paris. The table of weights is easily constructed by substituting gramme for meter in the table of linear measure. The kilogramme is much used as a unit in commerce. It is abbreviated into kilo (kĭl'o) and is equal to a little more than two and two-tenths pounds avoirdupois. The quintal, 100 kilogrammes, or 2220.46 pounds avoirdupois, is also much used.

The unit of capacity, the *liter,* is the cube of one decimeter, or one-tenth of a meter, and is equal to a little more than a quart. The word millimeter is in general use superseded by its equivalent cubic centimeter (c.c.). For practical use:

1 c.c.	=	♏xv.
4 c.c.	=	℥i.
30 c.c.	=	℥i.
500 c.c.	=	Oi.

The *are*, the square of ten meters, or of the dekameter, is the unit of surface or land measure. Only two of its derivatives are in common use,—the hectare, equivalent to 2.471 acres, and the centare, equivalent to 1550 square inches.

For solid measure, we have the *stere*, equal to a kiloliter, or to 1.308 cubic yards.

The comparison of the British yard and the French meter was an operation of extreme delicacy. The standard meter, constructed of platinum, was longest at 32° F., and the standard yard, made of bronze, was longest at 62° F. But even this difficulty was surmounted, and now the metric standards are made of an alloy of platinum and iridium, which is unchangeable.

With a little practice and patience the words meter, liter, and gramme come to mean something definitely fixed in the mind, just as the words yard, quart, and ounce produce unconscious and instant pictures. Approximately, the breadth of the palm is a decimeter, the breadth of the little finger at its extremity a centimeter. We are wont to measure from the middle of the lips to the full length of the arm for a yard; if, instead of this, we measure from the lobe of the ear to the extremity of the opposite arm we have a meter—accurate enough for common usage.

A word as to pronunciation. All the French terms used in the metric system have been Anglicized, and it is much simpler and more natural, unless we are absolutely sure of our French, to say sen'tee-mee-ter. These metric words are as much a part of our common speech as any other words of our language.

THE POSITION OF THE SMALL HOSPITAL IN THE EDUCATION OF THE NURSE

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Many new and varied problems are suggested by the development of the training-schools for nurses and their rapid multiplication by the corresponding increase in the number of hospitals throughout the community. In many of the older institutions the evolution of the course has gone on, so that they are no longer simple training-schools for nurses, but schools from which women with a well-rounded information in all branches of nursing, hospital administration, and housekeeping are graduated. The school no longer prides itself on the success of its graduates